

A What IS Claimed IS
What is claimed is:

1. A method for etching patterns in an etching body (18), in particular cut-outs in a silicon body exactly defined by an etching mask in a lateral manner, using a plasma (14), a high-frequency-pulsed high-frequency power being at least temporarily coupled into the etching body (18) via an at least temporarily applied high-frequency a.c. voltage, wherein the coupled, high-frequency-pulsed high-frequency power is modulated at a low frequency.
2. The method as recited in Claim 1, wherein the high-frequency a.c. voltage is provided by a high-frequency generator (33), which generates a high-frequency carrier signal (54).
3. The method as recited in Claim 1, wherein the high-frequency-pulsed high-frequency power is pulsed at a frequency of 10 kHz to 500 kHz, in particular 50 kHz to 200 kHz.
4. The method as recited in at least one of the preceding claims, wherein the high-frequency carrier signal (54) has a frequency of 1 MHz to 50 MHz, in particular 13.56 MHz.
5. The method as recited in at least one of the preceding claims, wherein the high-frequency generator (33) generates a high-frequency power having an amplitude of 30 watts to 1200 watts, in particular 50 watts to 500 watts.
6. The method as recited in at least one of the preceding claims, wherein the high-frequency-pulsed high-frequency power is coupled in the form of square-wave pulses (52).

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7. The method as recited in at least one of the preceding claims, wherein the square-wave pulses (52) have a rise time of the clock pulse edges of the square-wave pulses (52) of less than 0.3 μ s.
8. The method as recited in at least one of the preceding claims, wherein the mark-to-space ratio (52, 53) of the high-frequency-pulsed high-frequency power is between 1:1 and 1:100, in particular between 1:2 and 1:19.
9. The method as recited in at least one of the preceding claims, wherein the sequence of the high-frequency-pulsed power pulses (52) and pulse intervals (53) corresponds to an average high-frequency power of 1 watt to 100 watts.
10. The method as recited in at least one of the preceding claims, wherein the coupled, high-frequency-pulsed high-frequency power is periodically modulated using a low-frequency clocking (50, 51).
11. The method as recited in at least one of the preceding claims, wherein the low-frequency clocking (50, 51) or the low-frequency modulation (50, 51) is performed at a frequency of 10 Hz to 10000 Hz, in particular 50 Hz to 1000 Hz.
12. The method as recited in at least one of the preceding claims, wherein the low-frequency clocking (50, 51) or the low-frequency modulation (50, 51) causes the coupled, pulsed high-frequency power to be periodically switched on and off.

13. The method as recited in at least one of the preceding claims,
wherein the mark-to-space ratio of the low-frequency clocking (50, 51) is between 4:1 and 1:4, in particular between 1:2 and 2:1.

14. The method as recited in at least one of the preceding claims,
wherein the time-averaged high-frequency power coupled into the etching body (18) is between 1 watt and 30 watts.

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